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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,229	08/16/2001	Douglas Elmer Wallace JR.	M-11625 US	2862

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EXAMINER

BETTENDORF, JUSTIN P

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 09/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/931,229

Applicant(s)

WALLACE ET AL.

Examiner

Justin P. Bettendorf

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Consistent terminology should be used throughout the specification. For example, page 8, line 23 states "planar pad 40" yet line 24 states "conductor 40", which is inconsistent. Appropriate correction is required.

Claim Objections

2. Claims 7, 17-21, and 38 are objected to because of the following informalities: Claim 7 recites "F⁰", which should be changed to --F₀--. Each of claims 17-21 and 38 has a different preamble from its respective independent claim (e.g. claim 17 recites "circuit board as defined in claim 14" and claim 14 recites "A computer system"). This different preamble could cause confusion. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 6-9, 18-21, 24, 25, 27, 30, 33-35, 38, and 39 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites "the first linear segment" which lacks an antecedent basis.

Claim 18 depends from claim 17, which recites "a turn", yet claim 18 recites a first turn and two recitations of "a second turn". Therefore, it is unclear as to how the first and second

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turns of claim 18 corresponds to the turn of claim 17. Also, the 2nd "second turn" appears to be double inclusion, which causes confusion (see also claims 24, 27, 30, and 33).

Claim 20 recites "the tuning capacitance is substantially rectangular" which is redundant on claim 14 from which it depends. Claim 24 recites "the second trace" which lacks an antecedent basis.

Claim 38 recites "the means" which lacks an antecedent basis.

Claims 34 and 39 are dependent upon themselves alone rendering the claims vague and indefinite.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 36 is rejected under 35 U.S.C. 102(b) as being anticipated by Sugimoto United States Patent No. 6,016,084.

The Sugimoto reference discloses in figure 11 a circuit module comprising: a printed circuit board 81; first and second conductive pads 84; a capacitor 85a connected between pads 84; and means for suppressing a spurious signal including inductance 87b and capacitance 85b coupled to the first pad 84 by the trace shown (see figure 12 and col. 9, lines 35-55). Either 83 or 100 may be considered a ground plane.

7. Claims 1-7, 10-13, 22-25, 28, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsui et al. United States Patent No. 5,717,359.

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The Matsui et al. reference discloses in figure 4 a computer system including a circuit module on a PCB with voltage pad 2 and ground pad 4 having a bypass capacitor connected thereto (see col. 1, lines 48-50 and col. 4, lines 49-52) and multi-turn, serpentine inductor 1a coupled to pad 2 having capacitance C (see figure 5) that inherently forms a series resonant frequency at some predetermined frequency, as this circuit is disclosed as an LC low pass filter (see col. 5, lines 40-50). Also, the reference discloses the length of the inductance (col. 5, line 68) and shows that a width of each line and spacing exists yielding an inductance of 30 nH this inductance with 200 pF capacitance yields a series resonance of 65 MHz, which is approximately equal to the frequency of 100 MHz (col. 6, lines 1-2). In the above rejection, it has been assumed that the second turns are different turns.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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10. Claims 1-9 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugimoto.

As noted above, the Sugimoto et al. reference discloses in figure 11 parallel series LC circuits that are resonant at a frequency of interest (col. 9, lines 43-55) but have different values (see col. 9, lines 7-10). In a different embodiment (i.e. figure 10), the reference suggests that printed or chip components may be used (suggesting the two are art-recognized equivalent - see col. 8, lines 47-53). However, the reference does not explicitly show in figure 11 a serpentine inductor.

Nevertheless, it would have been obvious to one of ordinary skill in the art at the time of the invention to have replaced at least one of the inductors of figure 11 with a serpentine inductor such as the one shown in figure 10 because such a modification would have been a mere substitution of art-recognized equivalent inductors. Also, it would have been obvious to have replaced at least one of the capacitors with a printed rectangular patch (e.g., the lower value capacitor) because such a modification would have been a mere substitution of art-recognized equivalent capacitors.

11. Claims 8, 9, 14-21, 26, 27, 29-37, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui et al. in view of Morris et al. United States Patent No. 6,061,222.

The Matsui et al. reference as noted above teaches the tuning capacitance between the line 1a and part of 3a (see figures 4 and 5). The reference also suggests making a large capacitance to ground (see col. 5, line 47) but does not show a rectangular shape for the tuning capacitance that is above a ground plane.

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Nevertheless, as would have been well known, ground planes are conventionally used in computer circuits in order to make a ground connection and for shielding. Additionally, the Morris et al. reference teaches with respect to figure 4B that a rectangular portion advantageously increases the surface area of a capacitor thereby increasing capacitance (see col. 4, lines 47-53).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have added a ground plane for shielding and connection and formed the capacitance as a rectangular patch in the device of Matsui et al. because such a modification would have advantageously increased capacitance as taught by Morris et al.

In the application of the above rejection of claims 34 and 39, it has been assumed that claims 34 and 39 should be dependent from claims 33 and 36, respectively.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Novak United States Patent No. 6,104,258 discloses series resonance LC circuits connected between power and ground plane.
- b. Tohya et al. United States Patent No. 6,075,211 discloses serpentine inductors 11 connected to capacitors 4a, 4 in figure 3.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin P. Bettendorf whose telephone number is (703) 308-2780. The examiner can normally be reached on 6:00-3:30 (M-F, 1st Friday off).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Justin P. Bettendorf
Primary Examiner
Art Unit 2817

jpb
August 20, 2002